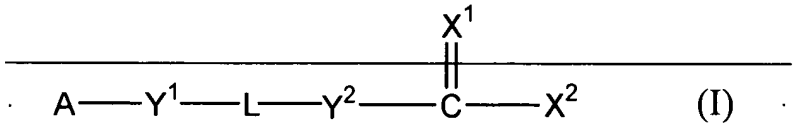
CLAIM AMENDMENTS

1. **(Currently Amended)** A method of inhibiting histone deacetylation activity in cells comprising contacting the cells with an effective amount of a compound wherein the compound is 5-phenyl-2,4-pentadienoic acid, 7-phenyl-2,4,6-heptatrienoic acid, 7-phenyl-2,4,6-hepta-trienoylhydroxamic acid, 8-phenyl-3,5,7-octatrienoic acid, cinnamoylhydroxamic acid, methyl-cinnamoylhydroxamic acid, 5-phenyl-2,4-pentadienoylhydroxamic acid, N-methyl-5-phenyl-2,4-pentadienoylhydroxamic acid, 3-methyl-5-phenyl-2,4-pentadienoylhydroxamic acid, 4-methyl-5-phenyl-2,4-pentadienoyl hydroxamic acid, 4-chloro-5-phenyl-2,4-pentadienoylhydroxamic acid, 5-phenyl-2-en-4-yn-pentanoylhydroxamic acid, or N-methyl-6-phenyl-3,5-hexadienoylhydroxamic acid ~~of formula (I)~~, thereby treating one or more disorders mediated by histone deacetylase; ~~said compound having the following formula:~~



~~wherein~~

~~A is a cyclic moiety selected from the group consisting of aryl, or heteroaryl; the cyclic moiety being optionally substituted with alkyl, alkenyl, alkynyl, alkoxy;~~

~~each of Y^1 and Y^2, independently, is a bond;~~

~~L is a straight C_{2-12} hydrocarbon chain containing at least one double bond, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being optionally substituted with C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-4} alkoxy, hydroxyl, halo, amino, nitro, cyano, C_{3-5} cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C_{1-4} alkylcarbonyloxy, C_{1-4} alkyloxycarbonyl, C_{1-4} alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, $-N(R^e)-$, $-N(R^e)-C(O)-O-$, $-O-C(O)-N(R^e)-$, $-N(R^e)-C(O)-N(R^f)-$, or -O-C(O)-O-; each of R^e and R^f, independently, being hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl;~~

~~X^1 is O or S; and~~

~~X^2 is $-OR^1$, $-SR^1$, $-NR^3-OR^1$, $-NR^3-SR^1$, $-C(O)-OR^1$, $-CHR^4-OR^1$, $-N=N-C(O)-N(R^3)_2$, or $-O-CHR^4-O-C(O)-R^5$, where each of R^1 and R^2, independently, is hydrogen, alkyl, hydroxylalkyl, haloalkyl, or a hydroxyl protecting group; R^3 is hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, haloalkyl, or an amino protecting group; R^4 is hydrogen, alkyl, hydroxylalkyl, or haloalkyl; and R^5 is alkyl, hydroxylalkyl, or haloalkyl;~~

~~or a salt thereof;~~ and

determining whether the level of acetylated histones in the treated cells is higher than in untreated cells under the same conditions.

Claims 2-40. **(Cancelled)**

41. **(Currently Amended)** The method of claim 1, wherein said compound ~~is 5-phenyl-2,4-pentadienoic acid, 8-phenyl-3,5,7-octatrienoic acid, 5-phenyl-2,4-pentadienoylhydroxamic acid, or~~ 7-phenyl-2,4,6-hepta-trienoylhydroxamic acid.

Claims 42-43. **(Cancelled)**

44. **(Original)** The method of claim 1, wherein the cells being treated are cancerous.

45. **(Cancelled)**

46. **(Previously Presented)** The method of claim 1, wherein the disorder is cancer.

Claims 47-66 **(Cancelled)**

67. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is 5-phenyl-2,4-pentadienoic acid.

Claims 68-73 **(Cancelled)**

74. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is 7-phenyl-2,4,6-heptatrienoic acid.

75. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is 8-phenyl-3,5,7-octatrienoic acid.

76. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is cinnamoylhydroxamic acid.

77. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is methyl-cinnamoylhydroxamic acid.

78. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is 5-phenyl-2,4-pentadienoylhydroxamic acid.

79. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is N-methyl-5-phenyl-2,4-pentadienoylhydroxamic acid.

80. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is 3-methyl-5-phenyl-2,4-pentadienoylhydroxamic acid.

81. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is 4-methyl-5-phenyl-2,4-pentadienoyl hydroxamic acid.

82. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is 4-chloro-5-phenyl-2,4-pentadienoylhydroxamic acid.

83. **(Cancelled)**

84. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is 5-phenyl-2-en-4-yn-pentanoylhydroxamic acid.

85. **(Currently Amended)** The method of claim [[40]] 1, wherein said compound is N-methyl-6-phenyl-3,5-hexadienoylhydroxamic acid.